Toxicology in Vitro

An international journal published in association with BIBRA

Joint Editors:

Iain F H Purchase

Gordon C Hard

Associate Editor

(North America):

J Carl Barrett

Author and Subject Indexes to Volume 2 (1988)

PERGAMON PRESS *OXFORD • NEW YORK*

BEIJING • FRANKFURT • SÃO PAULO • SYDNEY • TOKYO • TORONTO

TOXICOLOGY IN VITRO

An international journal published in association with BIBRA

JOINT EDITORS

I. F. H. PURCHASE
Central Toxicology Laboratory
Imperial Chemical Industries plc
Macclesfield, Cheshire SK10 4TJ, UK

G. C. HARD
BIBRA
Woodmansterne Road
Carshalton, Surrey SM5 4DS, UK

ASSOCIATE EDITOR

J. C. BARRETT
Laboratory of Molecular Carcinogenesis
National Institute of Environmental Health Sciences, MD D2-04
P.O. Box 12233
Research Triangle Park, NC 27709, USA

MANAGING EDITOR

A. K. ALLEY
BIBRA
Woodmansterne Road
Carshalton
Surrey SM5 4DS

EDITORIAL BOARD

D. Acosta
University of Texas
Austin, USA

M. Balls
FRAME
Nottingham, UK

R. Bass
Bundesgesundheitsamt
Berlin, FRG

E. Borenfreund
Rockefeller University
New York, USA

J. W. Bridges
University of Surrey
Guildford, UK

A. M. Goldberg
Johns Hopkins School of Hygiene and Public Health
Baltimore, USA

H. A. Greim
Gesellschaft für Strahlen und Umweltforschung München
Neuherberg, FRG

N. Loprieno
Universitá degli Studi
Pisa, Italy

I. C. Munro
University of Guelph
Ontario, Canada

Minako Nagao
National Cancer Center Research Institute
Tokyo, Japan

S. Orrenius
Karolinska Institutet
Stockholm, Sweden

W. E. Parish
Unilever Research
Bedford, UK

G. Zbinden
Swiss Federal Institute of Technology and University of Zürich
Schwerzenbach, Switzerland

Publishing Office: Pergamon Press plc, Journals Production Unit, Hennock Road, Marsh Barton, Exeter, Devon EX2 8NE, England (*Tel.* Exeter (0392) 51558; *Telex* 42749)

Subscription and Advertising Offices: Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, England (*Tel.* Oxford (0865) 64881); Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, USA

Published Quarterly

Annual Subscription Rates (1989): Annual institutional subscription rate (1989) DM 245.00; 2-year institutional rate (1989/90) DM 465.50; personal subscription rate for those whose library subscribes at the regular rate (1989) DM 93.00 Members of BIBRA may order personal subscriptions at a concessional rate. Details of these rates are available on request. Prices are subject to amendment without notice.

Microform Subscriptions and Back Issues

Back issues of published volumes will be available direct from Pergamon Press. Back issues of Pergamon journals in microform can be obtained from: UMI, 300 North Zeeb Road, Ann Arbor, MI 48106, USA.

Copyright © 1988 Pergamon Press plc

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Photocopying information for users in the USA. The Item-fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying beyond that permitted by Section 107 or 108 of the U.S. Copyright Law is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970. *Permission for other use.* The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying. *The Item-fee Code for this publication is:* 0887-2333/88 $3.00 + 0.00

Index of Authors

Acosta D. 205
Amerini S. 49
Anderson D. 65
Avery M. D. 103

Baars A. J. 141
Babich H. 1
Barrett J. C. 303
Bechter R. 181, 195
Beech L. M. 83
Bentley P. 235
Betton G. R. 221
Bieri F. 235
Bird M. C. 221
Blaauboer B. J. 75
Bondy G. S. 241
Borenfreund E. 1
Bowen B. L. 215
Breen K. C. 43
Brouillard J.-F. 181
Bruggeman I. M. 31

Callaham M. F. 103
Castell J. V. 275
Chiyoda I. 125
Cohen A. 131
Creasy D. M. 83

de Boer A. J. 75
de Graaf G. J. 141
Dekant W. 283
Delfino G. 49

Estrov Z. 131

Fertel R. H. 215
Flower C. 65
Freedman M. H. 131
Fry J. R. 247
Fujiyama Y. 125

Garbis-Berkvens J. M. 149
Garle M. J. 247
Gelfand E. W. 131
Gentry P. A. 241
Gómez-Lechón M. J. 275
Gray T. J. B. 83

Hagino S. 125
Halloween W. 103
Hashimoto K. 69
Hayashi M. 69
Henschler D. 283
Ho H. W. 37
How M. J. 19
Huberman E. 103
Hunter E. S. 163

Ishida A. 291
Itagaki H. 125

Jacobs G. A. 253
Jager L. P. 141
Jones C. A. 103
Jones V. I. 97

Kakoki H. 125
Kamiya S. 291
Kandaswami C. 117
Kate Smith M. 175
Kato S. 125
Khan J. 247
Khera K. S. 257
Kimber I. 309
Klug S. 169
Kobayashi T. 125
Korpela M. 135
Kouri R. E. 103
Kunimoto M. 57

Langenfeld K. B. 149
Larkin E. P. 97
Larkin M. M. 221
Le C. T. 225
Lewandowski C. 169
Lubet R. A. 103

Maier P. 297
Martens M. A. 253
Martin M. L. 43
Martin-Alguacil N. 1
Masanet J. 275
Miura T. 57
Miyata N. 291
Morin G. 117
Muakkassah-Kelly S. 235
Mugelli A. 49
Mulder G. J. 225

Nau H. 169
Nemali M. R. 235
Neubert D. 169

Oliver G. J. A. 7
Olsen M. 27
Olsen R. G. 215
Osborne L. C. 97

Pallota S. 103
Peeler J. T. 97
Pemberton M. A. 7
Peters P. W. J. 149
Phillips B. J. 65

Ramos K. 205
Reddy J. K. 235
Regan C. M. 43
Rhodes C. 7
Rietjens I. M. C. M. 121

Sadler T. W. 163, 175
Schmid B. 147
Schön H. 195
Schrenk D. 283
Shum L. 175
Sirois P. 117
Sivak A. 103
Smith M. A. 205
Spalding J. 103
Spenkelink A. 31
Spierenburg Th. J. 141
Stäubli W. 235

Tähti H. 135
Takahashi A. 291
Tanii H. 69
Tarr M. J. 215
Temmink J. H. M. 31
Tennant R. W. 103
Tesh J. M. 189
Tsuchiya T. 291
Tu A. 103

van Bladeren P. J. 31
van Holsteijn C. W. M. 75
van Houdt J. J. 121
van Iersel A. A. J. 75
Verhoef A. 149
Vinters H. V. 37
Visconti A. 27

Waechter F. 235
Walker A. P. 19
Warner C. W. 175
Welder A. A. 205
Whalen C. 257
Worth W. M. H. 19
Wünsch P. H. 283
Wydler M. 297

Yamaguchi M. 125
Young J. R. 19

Zbinden G. 297
Zhang Q. 303

Index of Subjects

Acetylcholinesterase, in human and rat erythrocyte membranes, effect of organic solvents on 135
Acids, preparations containing, irritancy to skin 19
Acrylamide, toxicity to cerebellar astrocytes 69
Adrenal gland, porcine, inhibition of aldosterone production by carbadox 141
Air pollution, toxicity of particulate matter to rat alveolar macrophages 121
Aldosterone, inhibition of production by carbadox in porcine adrenals 141
Alkalis, preparations containing, irritancy to skin 19
Allyl isothiocyanate, effect of glutathione on cytotoxicity 31
Altertoxins, activity in C3H/10T½ cells and induction of EBV-early antigen in Raji cells 97 . . . metabolism of alternariol monomethyl ether by porcine liver and intestinal mucosa 27
Asbestos, differential cytotoxic, growth-inhibiting and lipid-peroxidative activities 297 . . . lipid peroxidation in rat alveolar macrophages after exposure to chrysotile fibres 117
Astrocytes, toxicity of acrylamide in 69

Barium, mechanisms of cardiotoxicity 49
BHA (see 3-*tert*-Butyl-4-hydroxyanisole)
Biotransformation, of xenobiotics to form reactive intermediates, detection in rapid screening test with rat liver microsomal fraction 225
Blood cells, rat, accumulation of cadmium in 57
Blood vessels, murine cerebral, toxicity of isobutyl 2-cyanoacrylate polymer 37
Bone marrow, human, cytotoxicity of deferoxamine on haematopoietic progenitors 131 . . . mouse, toxicity of metiamide on haematopoietic and stromal progenitor cells 221
Brain, rat, in cytotoxicity assay to detect neuroteratogens 257
Bromobenzene, depletion of glutathione in liver microsomal system 247
***tert*-Butylhydroperoxide,** effect of glutathione on cytotoxicity 31
3-*tert*-Butyl-4-hydroxyanisole, effects on rat and human embryonic cells in culture 291

Cadmium, accumulation in rat red blood cells 57
Carbadox, inhibition of aldoesterone production in porcine adrenals 141
Carboxylic acids, placental transfer to cultured whole rat embryos 169
Carinogenesis, characterization of hazard of asbestos using screening tests 297
Cell transformation, in C3H/10T½ cells, activity of altertoxins 97 . . . in Syrian hamster embryo cells, interlaboratory evaluation using eighteen chemicals 103 . . . of Syrian hamster embryo fibroblasts by nickel 303
Chlorodinitrobenzene, effect of glutathione on cytotoxicity 31
Chromosomal damage, in Chinese hamster ovary cells exposed to detergents 65
Chrysotile, lipid peroxidation in rat alveolar macrophages 117
Cloning efficiency assay, use in testing effect of glutathione on chemical cytotoxicity 31
Cocaine, cardiac effects 205
Co-cultures, rat Sertoli cell/germ cell, effect of phthalic acid esters 83

Deferoxamine, cytotoxicity on human marrow haematopoietic progenitors 131
Detergents, chromosomal damage in Chinese hamster ovary cells 65
1,1-Dimethylhydrazine, modulation of macrophage functions 215
Draize test, liposomes as a model for 125
Drug safety, use of whole rat embryo culture 195

Embryo cells, nickel-induced morphological transformation 303 . . . rat and human, effects of 3-*tert*-butyl-4-hydroxyanisole 291 . . . Syrian hamster, transformation by eighteen chemicals, an interlaboratory evaluation 103
Embryo culture, metabolism of foetal fuels in 163 . . . whole rat: application to new production development 189, embryotoxicity and metabolism of *N*-hydroxy-*N*-methyl-7-propoxy-2-naphthalenethanamine 181, histology of 149, placental transfer of carboxylic acids 169, use in drug safety assessment 195 . . . whole rodent, response to teratogens 175
Epidermal slices, rat, for identifying skin-corrosive chemicals 7
Epstein–Barr virus, induction of early antigen in Raji cells by altertoxins 97
Erythrocytes, human and rat, model for studying effects of organic solvents on membrane-bound acetylcholinesterase 135 . . . rat, accumulation of cadmium in 57
Eye, irritancy: comparison of ultrasonic and optic pachometers in enucleated eye test 253, prediction by liposomes model 125

Glutathione, effect on cytotoxicity 31 . . . depletion by hepatotoxins in liver microsomal system 247 . . . role in nephrotoxicity of hexachlorobutadiene 283

Halothane, liquid peroxidation in rat hepatocytes 75
Heart, guinea-pig muscle strips, ultrastructural modifications by barium 49 . . . rat muscle, toxicity of cocaine 205
Hepatotoxins, depletion of glutathione in liver microsomal system 247
Hexachlorobutadiene, *S*-conjugate nephrotoxicity 283
***N*-Hydroxy-*n*-methyl-7-propoxy-2-naphthalenethanamine,** embryotoxicity and metabolism in whole rat embryo culture 181

Immunotoxicology, and allergy 309
Intestine, porcine mucosa, metabolism of alternariol monomethyl ether 27
Irritancy, eye: comparison of ultrasonic and optic pachometers in enucleated eye test 253, liposomes as predictive model 125 . . . model using rat epidermal slices to test corrosives 7 . . . to skin of preparations containing acidic or alkaline substances 19
Isobutyl 2-cyanoacrylate polymer, toxicity to murine cerebral blood vessel wall 37

Kidney, role of metabolic activation in the toxicity of *S*-(pentachlorobutadienyl) glutathione and *S*-(pentachlorobutadienyl)-L-cysteine 283

Lipids, peroxidation: by asbestos fibres 297, by halothane in rat hepatocytes 75, in rat alveolar macrophages exposed to chrysotile fibres 117
Liposomes, as model for predicting eye irritancy 125

Liver, microsomal fraction, screening to detect reactive intermediates of xenobiotics 225 ... microsomal system, depletion of glutathione by hepatotoxins in 247 ... porcine metabolism of alternariol monomethyl ether 27 ... rat hepatocytes: cytotoxicity of halothane 75, nafenopin-treated, increased peroxisomal gene levels in 235, toxicity of paraquat in 275
Lung, rat alveolar macrophages: lipid peroxidation after exposure to chrysotile fibres 117, toxicity of airborne particulate matter 121

Macrophages, modulation of functions by 1,1-dimethylhydrazine 215
Metabolism, of alternariol monomethyl ether by porcine liver and intestinal mucosa 27 ... of foetal fuels in embryo culture 163 ... of *N*-hydroxy-*N*-methyl-7-propoxy-2-naphthalenethanamine in whole rat embryo culture 181 ... renal, in hexachlorobutadiene *S*-conjugate toxicity 283
Metiamide, toxic effects on mouse bone-marrow haematopoietic and stromal progenitor cells 221
Moulds, Alternaria: metabolism of alternariol monomethyl ether by porcine liver and intestine 27, transformation of C3H/10T½ cells and induction of EBV early antigen in Raji cells by altertoxins 97

Nafenopin, treated rat hepatocytes increased peroxisomal gene levels in 235
Neural tube, development of, effects of sodium valproate 43
Neuroteratogenicity, in cytotoxicity assay using foetal rat brain cells 257
Neutral red cytotoxicity assay, comparison with tetrazolium MTT test 1
Nickel, morphological transformation of Syrian hamster embryo fibroblasts 303

Ovary cells, Chinese hamster, chromosomal damage by detergents 65

Paracetamol, depletion of glutathione in liver microsomal system 247
Paraquat, toxicity in rat hepatocytes 275
Peroxisomes, induction of peroxisomal genes in nafenopin-treated rat hepatocytes 235
Phthalic acid esters, mono-(2-ethylhexyl) phthalate and mono-*n*-pentyl phthalate, effects on rat Sertoli cells 83
Platelet function, bovine, inhibitory effect of T-2 toxin 241

Reactive metabolites, detection by depletion of glutathione in liver microsomal system 247 ... of xenobiotics, detection in rapid screening test with rat liver microsomal fraction 225

Screening tests, for carcinogenic hazard of asbestos fibres 297 ... with rat liver microsomal fraction, to detect reactive intermediates of xenobiotics 225
Sertoli cells, rat, effect of phthalic acid esters 83
Skin, irritancy of preparations containing acidic or alkaline substances 19 ... model using rat epidermal slices to test corrosives 7
Sodium valproate, effect on cellular function 43
Solvents, organic, effect on membrane-bound acetylcholinesterase in human and rat erythrocytes 135

Teratogenesis, detection of neuroteratogens in cytotoxicity assay using foetal rat brain cells 257 ... effects of sodium valproate on cellular functions integral to neural tube formation 43 ... of *N*-hydroxy-*N*-methyl-7-propoxy-2-naphthalenethanamine in whole rat embryo culture 181 ... rodent embryo response to teratogens in culture 175
Tetrazolium MTT cytotoxicity assay, comparison with neutral red assay 1
T-2 Toxin, inhibitory effect on bovine platelet function 241

Xenobiotics, reactive intermediates of, detection in rapid screening test with rat liver microsomal fraction 225